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Attorney's Docket No.: 10454-019001

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Kemal Sonmez, et al  
Serial No. : 10/004,580  
Filed : December 3, 2001  
Title : DATA RELATIONSHIP MODEL

Art Unit : 2621  
Examiner : Unknown

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Commissioner for Patents  
Washington, D.C. 20231

INFORMATION DISCLOSURE STATEMENT

Applicant submits the references listed on the attached form PTO-1449, copies of which are enclosed.

This statement is being filed before the receipt of a first Office action on the merits.  
Please apply any charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: 4/11/2

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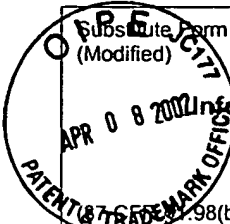
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 Substitute Form PTO-1449 (Modified)	U.S. Department of Commerce Patent and Trademark Office		Attorney's Docket No. 10454-019001	Application No. 10/004,580
	<b>Information Disclosure Statement by Applicant</b> (Use several sheets if necessary)		Applicant Kemal Sonmez, et al	
			Filing Date December 3, 2001	Group Art Unit 2621

**U.S. Patent Documents**

Examiner Initial	Desig. ID	Patent Number	Issue Date	Patentee	Class	Subclass	Filing Date If Appropriate
	AA	6,128,587	10/03/2000	Sjolander			
	AB						

**Foreign Patent Documents or Published Foreign Patent Applications**

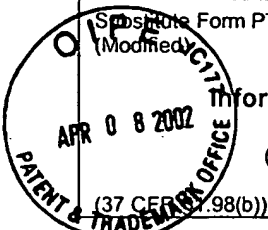
Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	RECEIVED		Translation	
					Class	Subclass	Yes	No
	AC				APR 12 2002			
	AD							

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**Other Documents (include Author, Title, Date, and Place of Publication)**

Examiner Initial	Desig. ID	Document
	AE	Baldi, P. et al., "Hidden Markov Models of Biological Primary Sequence Information", <i>Proc. Natl. Acad. Sci. USA</i> , Vol. 91, pp. 1059-1063; February 1994.
	AF	Barrett, C. et al. "Scoring Hidden Markov Models", <i>CABIOS</i> , Vol. 13, No. 2, pp. 191-199; 1997.
	AG	Brakch, N. et al. "Favourable Side-Chain Orientation of Cleavage Site Dibasic Residues of Prohormone in Proteolytic Processing by Prohormone Convertase 1/3", <i>Eur. J. biochem.</i> Vol. 267, pp. 1626-1632; 2000.
	AH	Brown, M. et al., "Using Dirichlet Mixture Priors to Derive Hidden Markov Models for Protein Families", <i>Proc. of First Int. Conf. on Intelligent Systems for Molecular Biology</i> , pages 47--55, Menlo Park, CA, July 1993. AAAI/MIT Press.
	AI	Bucher, P. et al., "A Flexible Motif Search Technique based on Generalized Profiles", <i>Computers and Chemistry</i> , Vol. 20 pp. 3-24. January 1996.
	AJ	Chesneau, V. et al., "N-Arginine Dibasic Convertase (NRD Convertase): A Newcomer to the Family of Processing Endopeptidases", <i>Biochimic</i> Vol. 76, pp. 234-240; Paris, March 1994.
	AK	Chou, K-C. et al., "Studies on the Specificity of HIV Protease: An Application of Markov Chain Theory", <i>Journal of Protein Chemistry</i> , Vol. 12, No. 6, pp. 709-724; 1993.
	AL	Chou, K-C., "Prediction of Human Immunodeficiency Virus Protease Cleavage Sites in Protein", <i>Analytical Biochemistry</i> Vol. 233, pp. 1-14; 1996.
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	AN	Eddy, SR., "Hidden Markov Models", <i>Current Opinion in Structural Biology</i> , Vol. 6, pp. 361-365, 1996.
	AO	Eddy, SR., "Profile Hidden Markov Models", <i>Bioinformatics</i> , Vol. 14, review of HMMs 1998.
	AP	Eddy, SR. et al., "Maximum Discrimination Hidden Markov Models of Sequence Consensus", <i>J. Computational Biology</i> Vol. 2 pp. 9-23, 1994.
	AQ	Eddy, SR., "Multiple Alignment Using Hidden Markov Models", <i>Proc. Third Int. Conf. Intelligent Systems for Molecular Biology</i> , AAAI Press, Menlo Park. pp. 114-120. PostScript; 1995.

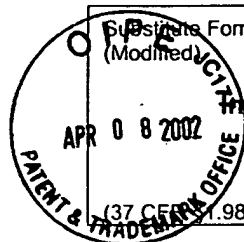
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 Substitute Form PTO-1449 (Modified)	U.S. Department of Commerce Patent and Trademark Office		Attorney's Docket No. 10454-019001	Application No. 10/004,586
	<b>Information Disclosure Statement by Applicant</b> (Use several sheets if necessary)		Applicant Kemal Sonmez, et al	
			Filing Date December 3, 2001	Group Art Unit 2621

**Other Documents (include Author, Title, Date, and Place of Publication)**

Examiner Initial	Desig. ID	Document
	AR	Grate, L, et al., "Tutorial: Stochastic Modeling Techniques: Understanding and Using Hidden Markov Models" University of California, Santa Cruz, CA, pp 1-34, June 1996.
	AS	Grice, JA. Et al., "Reduced Space Sequence Alignment", <i>CABIOS</i> , Vol. 13, pp. 45-53, 1997.
	AT	Grundy, WN., et al. ""Meta-MEME: Motif-Based Hidden Markov Models of Protein Families", to appear in <i>Computer Applications in the Biosciences</i> , 1997.
	AU	Hughey, R. et al., "Hidden Markov Models for Sequence Analysis: Extension and Analysis of the Basic Method", Reprint <i>CABIOS</i> Vol. 12, pp. 95-107, 1996.
	AV	Hughey, R. et al., "SAM : Sequence Alignment and Modeling Software System", <i>Technical Report UCSC-CRL-96-22</i> , University of California, Santa Cruz, CA, July 1998..
	AW	Hughey, R., "Massively Parallel Biosequence Analysis.", <i>Technical Report UCSC-CRL-93-14</i> , University of California, Santa Cruz, CA, April 1993.
	AX	Jagla, B. et al., "Adaptive Encoding Neural Networks for the Recognition of Human Signal Peptide Cleavage Sites" <i>BIO</i> , Vol. 16, No. 3, March 2000.
	AY	Karchin, R. et al., "Weighting Hidden Markov Models for Maximum Discrimination", <i>Bioinformatics</i> , Vol. 14, pp. 772-782, 1998.
	AZ	Karchin, R., "Hidden Markov Models and Protein Sequence Analysis" from <a href="http://www.cse.ucsc.edu/research/compbio/ismb99.handouts/KK185FP.html">http://www.cse.ucsc.edu/research/compbio/ismb99.handouts/KK185FP.html</a> printed from website March 14, 2002.
	AAA	Karplus, K. et al., "Hidden Markov Models for Detecting Remote Protein Homologies", <i>BIO Informatics</i> , Vol. 14, No. 10, pp. 846-856; October 1998.
	ABB	Karplus, K. et al., "Predicting Protein Structure Using Hidden Markov Models", <i>Proteins: Structure, Function, and Genetic</i> , Suppl., pp. 134-139; September 1997.
	ACC	Krogh, A. et al., "Hidden Markov Models in Computational Biology. Applications to Protein Modeling", <i>J. Mol. Biol.</i> Vol. 235, pp. 1501-1531; February 1994.
	ADD	Krogh, A. et al., Predicting Transmembrane Protein Topology with a Hidden Markov Model: Application to Complete Genomes" <i>Journal of Molecular Biology</i> Vol 305, No. 3, pp.567-580; 2001.
	AEE	Ladunga, I., "Large-Scale Predictions of Secretory Proteins from Mammalian genomic and EST sequences" <i>Analytical Biotechnology</i> , pp. 13-18; 2000.
	AFF	Lockless, SW. et al. "Evolutionarily Conserved Pathways of Energetic Connectivity in Protein Families", <i>Science</i> Vol. 286, pp. 295-299; October 1999.
	AGG	McClure, MA.et al., "Parameterization studes for the SAM and HMMER methods of hidden Markov model generation", <i>Proc. Fourth Int. Conf. Intelligent Systems for Molecular Biology</i> , pp. 155-164, UNLV, Las Vegas.
	AHH	Nielsen, H.et al., "Identification of Prokaryotic and Eukaryotic Signal Peptides and Prediction of Cleavage Sites", <i>Protein Engineering</i> Vol. 10, No 1, pp.1-6; January 1997.
	AII	Nielsen, H. et al. "Prediction of Signal Peptides and Signal Anchors by a Hidden Markov Model", <i>American Association for Artificial Intelligence ISMB</i> , pp. 122-130; 1998.
	AJJ	Nielsen, H. et al. "Machine Learning Approaches for the Prediction of Signal Peptides and Other Protein Sorting Signals", <i>Protein Engineering</i> Vol. 12, No. 1, pp. 3-9; January 1999.
	AKK	Paracel, "Hidden Markov Model", from <a href="http://paracel.com/publications/hmm_white_paper.html">http://paracel.com/publications/hmm_white_paper.html</a> printed from website March 14, 2002.

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 Application No.  
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**Information Disclosure Statement  
 by Applicant**

(Use several sheets if necessary)

(37 CFR 1.98(b))

 Applicant  
 Kemal Sonmez, et al

 Filing Date  
 December 3, 2001

 Group Art Unit  
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**Other Documents (include Author, Title, Date, and Place of Publication)**

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	ALL	Rabiner, LR., "A Tutorial on Hidden Markov Models and Selected Applications in Speech Recognition", <i>Proceedings of the IEEE</i> , Vol. 77, No 2, pp.257-186; February 1989.
	AMM	Rholam, M. et al., "Role of Amino Acid Sequences Flanking Dibasic Cleavage Sites in Precursor Proteolytic Processing. The Importance of the First Residue C-terminal of the cleavage site", <i>Eur. J. Biochem.</i> Vol. 227, pp. 707-714; February 1995.
	ANN	Tarnas, C. et al., "Reduced space hidden Markov model training", <i>Bioinformatics</i> , Vol. 14. pp. 401-406, 1998.
	AOO	UCSC Comp. Biol. Group, "Sequence Alignment and Modeling System" from <a href="http://www.cse.ucsc.edu/research/compbio/sam.html">http://www.cse.ucsc.edu/research/compbio/sam.html</a> printed from website March 14, 2002.

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